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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/042,479	01/09/2002	Viktors Berstis	AUS920011009US1	6080

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EXAMINER	
DHARIA, PRABODH M	
ART UNIT	PAPER NUMBER
2673	

DATE MAILED: 02/24/2006

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary	Application No.	Applicant(s)	
	10/042,479	BERSTIS, VIKTORS	
	Examiner	Art Unit	
	Prabodh M. Dharia	2673	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on *17 August 2005*.

2a)☐ This action is **FINAL**. 2b)☒ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) *1-10* is/are pending in the application.

4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) *1-10* is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☒ The drawing(s) filed on *19 August 2002* is/are: a)☒ accepted or b)☐ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☐ All b)☐ Some * c)☐ None of:

1.☐ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____.

3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1) ☒ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☒ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08) Paper No(s)/Mail Date *08-19-02*.
4) ☐ Interview Summary (PTO-413) Paper No(s)/Mail Date. _____ .
5) ☐ Notice of Informal Patent Application (PTO-152)
6) ☐ Other: _____.

1. **Status:** Receipt is acknowledged of papers submitted on August 17, 2005 under request for reconsideration, which have been placed of record in the file. Claims 1-10 are pending in this action and 11-54 are cancelled.

Claim Rejections - 35 USC § 103

2. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

3. Claims 1-4 are rejected under 35 U.S.C. 103(a) as being unpatentable over Chiabrera et al. (6,329,963 B1) in view of Fergason (US 2005/0093796A1).

Regarding Claim 1, Chiabrera et al. teaches a method for producing a stereoscopic image from a display (abstract, Col. 1, Line 12-17) having N addressable pixels (Col. 3, Lines 58,59, the "N" (K) is an arbitrary number or integer, Col. 29, lines 40-45).

However, Chiabrera et al. fails to recite or disclose specifically, the steps of: generating N pixels of a first frame of an image directed to a view of an object a user experiences when said object is observed by said viewer's right eye; generating N pixels of a second frame of said image directed to a view of said object a user experiences when said object is observed by said viewer's left eye; receiving light from said N pixels in N optical elements for selectively directing light of said N pixels to said right eye in response to a first set of states of N

corresponding control signals and to said left eye in response to a second set of states of said N control signals; directing light from each of said N pixels of said first frame of said image to said right eye in a first time period by applying said first set of states of said N control signals to said N optical elements; and directing light from said N pixels of said second frame of said image to said left eye in a second time period by applying said second set of states of said N control signals to said N optical elements.

However, Fergason teaches a method for producing a stereoscopic image from a display (page 11, paragraphs 149,150) having N addressable pixels (page 12, paragraph 154, Lines 5,6,9,10, teaches plurality of pixels same as "N" pixels where the "N" is an arbitrary or any number, page 7, paragraph 106,107 teaches addressable pixels) comprising the steps of: generating N pixels of a first frame of an image directed to a view of an object a user experiences when said object is observed by said viewer's right eye (page 11, paragraph 149, Lines 7-15 since the image viewed by each eyes are different it is obvious they are different frames of the stereoscopic image); generating N pixels of a second frame of said image directed to a view of said object a user experiences when said object is observed by said viewer's left eye (page 11, paragraph 149, Lines 7-18, since the image viewed by each eyes are different it is obvious they are different frames of the stereoscopic image); receiving light from said N pixels in N optical elements for selectively directing light of said N pixels to said right eye in response to a first set of states of N corresponding control signals and to said left eye in response to a second set of states of said N control signals (figure 9, page 11, paragraph 149, Lines 7-18); directing light from each of said N pixels of said first frame of said image to said right eye in a first time period by applying said first set of states of said N control signals to said N optical elements (page 11,

paragraph 149, Lines 7-18); and directing light from said N pixels of said second frame of said image to said left eye in a second time period by applying said second set of states of said N control signals to said N optical elements. (page 11, paragraphs 148-151).

Thus it would have been obvious to one in the ordinary skill in the art at the time of invention was made to incorporate the teaching of Fergason into teaching of Chiabrera et al. to be able to have a optical display system with active, passive dithering using birefringence color image super-positioning, and display enhancement with phase coordinated polarization switching.

Regarding Claim 2, Fergason teaches first and second time periods corresponds to one half the period of a frame rate such that said first and second frames of said image of said object appear as a stereoscopic image to said viewer (page 21, paragraphs 227,228, where each frames divided in half and half the pixels are displayed at a time).

Regarding Claim 3, Fergason teaches the step of: selectively biasing said first and second sets of states of said N control signals to optimize said stereoscopic image perceived by said viewer (page 30, paragraph 306, page 27, paragraphs 281,282).

Regarding Claim 4, Fergason teaches selectively adjusting biases of said first and second set of states to compensate for variations in said display (page 30, paragraph 306, page 27, paragraphs 281,282).

4. Claims 6,8,10 are rejected under 35 U.S.C. 103(a) as being unpatentable over Chabrera et al. (6,329,963 B1) in view of Fergason (US 2005/0093796A1) as applied to claims 1-4 above, and further in view of Divelbiss et al. (US 2003/0112507 A1).

Regarding Claim 6, Chiabrea et al. teaches optical element for selectively directing light of said N pixels of said image (Col. 3, Lines 58,59, the "N" (K) is an arbitrary number or integer, Col. 29, lines 40-45) comprises: a prism/lense element oriented over each of said N pixels (Col. 5, Lines 66,67, figures 29, 32,33, Col. 18, Lines 12,13 mirror acting as prism).

However, Chiabrea et al. modified by Fergason fails to teach electrostatic element bends a beam coupled to said prism/lense element.

Divelbiss et al. teaches electrostatic element bends a beam coupled to said prism/lense element (page 1, paragraph 6, mirror can act as prism Lines 6-14).

Thus it would have been obvious to one in the ordinary skill in the art at the time of invention was made to incorporate the teaching of into teaching of Chiabrera et al. modified by Fergason to be able to have a projector displaying stereoscopic 3D images using one or more digital micro-mirror devices positioned into a plurality of columns and rows.

Regarding Claim 8, Chiabrea et al. teaches a prism/lense element oriented over each of said N pixels (Col. 5, Lines 66,67, figures 29, 32,33, Col. 18, Lines 12,13 mirror acting as prism).

Divelbiss et al. teaches electrostatic element bends a beam coupled to said prism/lense element (page 1, paragraph 6, mirror can act as prism Lines 6-14).

Regarding Claim 10, Chiabrea et al. teaches a prism/lense element oriented over each of said N pixels (Col. 5, Lines 66,67, figures 29, 32,33, Col. 18, Lines 12,13 mirror acting as prism).

Divelbiss et al. teaches electrostatic element rotates said prism/lense element around a torsional support beam (page 1, paragraph 6, mirror can act as prism Lines 6-14 roattes the reflected light beam +10 to –10 degrees, with electrostatic force).

5. Claims 5,7,9, rejected under 35 U.S.C. 103(a) as being unpatentable over Chabrera et al. (6,329,963 B1) in view of Fergason (US 2005/0093796A1) as applied to claim1-4, above, and further in view of Umeyama et al. (5,490,015).

Regarding Claim 5, Chiabrea et al. teaches optical element for selectively directing light of said N pixels of said image (Col. 3, Lines 58,59, the "N" (K) is an arbitrary number or integer, Col. 29, lines 40-45) comprises: a prism/lense element oriented over each of said N pixels (Col. 5, Lines 66,67, figures 29, 32,33, Col. 18, Lines 12,13 mirror acting as prism).

However, Chiabrea et al. modified by Fergason fails to recite piezoelectric element rotates said prism/lense element around a torsional support beam.

However, Umeyama et al. teaches piezoelectric element (Col.17, Lines 41-43, figure 24, item # 147a, 147b) rotates said prism/lense (figure 24, Itme # 142a, 142b Col. 17, Line 37, Col. 17, Lines 62-65) element around a torsional support beam (Col. 17, Lines 33-37).

Thus it would have been obvious to one in the ordinary skill in the art at the time of invention was made to incorporate the teaching of Umeyama et al. into teaching of Chiabrea et al. modified by Fergason to be able to have a projector displaying stereoscopic 3D images using one or more optical element positioned and an extension/contracting function of a piezoelectric element and/or an electrostrictive element.

Regarding Claim 7, Umeyama et al. teaches piezoelectric element operates to bend a beam coupled to said prism/lense (Col. 18, Lines 1-4, Lines 8-11).

Regarding Claim 9, Umeyama et al. teaches piezoelectric element rotates said prism/lense element around a torsional support beam (Col. 17, Lines 33-37, Lines 62-65).

Response to Arguments

6. Applicant's arguments, see remark, filed 08-17-2005, with respect to the rejection(s) of claim(s) 1-10 under non-final office action mailed on 05-17-2005 have been fully considered and are persuasive. Therefore, the rejection has been withdrawn. However, upon further consideration, a new ground(s) of rejection is made in view of Fergason (US 2005/0093796 A1).

Conclusion

7. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure.

Suzuki et al. (6,757,422 B1) Viewpoint position detection apparatus and method, and stereoscopic image display system.

8. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Prabodh M. Dharia whose telephone number is 571-272-7668. The examiner can normally be reached on M-F 8AM to 5PM.

9. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

10. Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see http://pair-direct.uspto.gov. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

Any response to this action should be mailed to:

Commissioner of Patents and Trademarks

Washington, D.C. 20231

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February 16, 2006

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